

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2005/050726

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01C9/12 G01C15/00 G01C15/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | DE 39 32 044 A1 (SCHOELKOPF, JOERG, 6909 WALLDORF, DE) 4 April 1991 (1991-04-04) | 1-7 |
| Y | abstract; figures 1,2 claims 1-5 column 1, line 3 - line 64 column 2, line 52 - line 68 | 8-12 |
| Y | EP 1 012 539 A (WILLIAMS, NIGEL EMLYN) 28 June 2000 (2000-06-28) cited in the application abstract figures 1,3,5,6,13,17-19,21 claims 1-3,8,13,14,18-20 paragraph '0001! - paragraph '0006! paragraph '0012! - paragraph '0020! paragraph '0030! - paragraph '0033! paragraph '0042! - paragraph '0065! | 8-12 |
| | -/- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *G* document member of the same patent family

Date of the actual completion of the international search

1 June 2005

Date of mailing of the international search report

10/06/2005

Name and mailing address of the ISA

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| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|---|-----------------------|
| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | PATENT ABSTRACTS OF JAPAN vol. 2002, no. 08, 5 August 2002 (2002-08-05) & JP 2002 107143 A (HITACHI CONSTR MACH CO LTD), 10 April 2002 (2002-04-10) | 1-7 |
| Y | abstract figures 1a, 1b | 8-12 |
| X | GB 769 495 A (SOCIETE DE PROSPECTION ELECTRIQUE PROCEDES SCHLUMBERGER) 6 March 1957 (1957-03-06) | 1-7 |
| Y | the whole document | 8-12 |
| A | US 5 912 733 A (DUNLOP ET AL) 15 June 1999 (1999-06-15) the whole document | 8-12 |

Form PCT/ISA/21C (continuation of second sheet) (January 2004)

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INTERNATIONAL SEARCH REPORT

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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|--|
| DE 3932044 | A1 | 04-04-1991 | NONE |
| EP 1012539 | A | 28-06-2000 | AT 287079 T 15-01-2005 AU 4131697 A 02-04-1998 DE 69732257 D1 17-02-2005 EP 1012539 A1 28-06-2000 US 6351890 B1 05-03-2002 EP 1522820 A1 13-04-2005 WO 9811407 A1 19-03-1998 |
| JP 2002107143 | A | 10-04-2002 | NONE |
| GB 769495 | A | 06-03-1957 | NONE |
| US 5912733 | A | 15-06-1999 | CA 2253025 A1 05-05-1999 |

Form PCT/ISA/210 (patent family annex) (January 2004)

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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/050726

International filing date (day/month/year)
18.02.2005

Priority date (day/month/year)
27.02.2004

International Patent Classification (IPC) or both national classification and IPC
G01C9/12, G01C15/00, G01C15/10

Applicant
WILLIAMS, Nigel Emlyn

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/050726

Box No. I Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2005/050726

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 5-12 |
| | No: Claims | 1-4 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1-12 |
| Industrial applicability (IA) | Yes: Claims | 1-12 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2005/050726

Re Item V.

1 The following documents are referred to in this communication:

- D1:** DE 39 32 044 A1 (SCHOELKOPF, JOERG, 6909 WALLDORF, DE) 4 April 1991 (1991-04-04)
- D2:** PATENT ABSTRACTS OF JAPAN vol. 2002, no. 08, 5 August 2002 (2002-08-05) & JP 2002 107143 A (HITACHI CONSTR MACH CO LTD), 10 April 2002 (2002-04-10)
- D3:** GB 769 495 A (SOCIETE DE PROSPECTION ELECTRIQUE PROCEDES SCHLUMBERGER) 6 March 1957 (1957-03-06)
- D4:** EP-A-1 012 539 (WILLIAMS, NIGEL EMLYN) 28 June 2000 (2000-06-28)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claim 1** is not new in the sense of Article 33(2) PCT.

Document **D1** discloses (the references in parentheses applying to this document) a frictional pivot (see abstract) comprising:

- gravity-responsive directional means for indicating a datum direction of alignment with gravity (see reference numeral B in figure 1);
- frictional pivoting means for allowing the gravity-responsive means coarsely to align with gravity (see reference numeral A in figure 1);
- vibration means for vibrating one or more elements of the pivoting means (see reference numerals 25 and 27 in figure 2 and e.g. page 6, lines 6-9 and page 8, lines 15-16); and
- portable power means for powering the vibration means (see reference numeral 27 in figure 2 and e.g. page 8, lines 11-14).

All the features of independent **claim 1** are therefore completely disclosed in **D1** and consequently the subject-matter of this claim lacks novelty.

2.2 For the sake of completeness, it is pointed out that both documents **D2** (see abstract and figure 1a) and **D3** (see e.g. page 1, lines 51-65 and 75-77) are also considered to be novelty-destroying for the subject-matter of **claim 1**.

3 DEPENDENT CLAIMS 2-12

Dependent **claims 2-12** do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), see documents **D1**, **D2**, **D3** and **D4** and the corresponding passages cited in the Search Report.